

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0008] with the following replacement paragraph:

[0008] FIG. 1[[A]] illustrates a top view of a printed circuit board, according to an embodiment of the present invention.

Please delete paragraph [0009].

Please replace paragraph [0017] with the following replacement paragraph:

[0017] FIG. 1[[A]] illustrates a top view of printed circuit board 100. Printed circuit board includes substrate 101, ball grid array 102, connectors 104A-104D, traces 106A-106D, and backplane connector 108. Backplane connector 108 includes several signal connections 109. It is noted that FIG. 1[[A]] is meant to provide an example of the types of components that may be present on a printed circuit board but is not necessarily representative of the scale of the various types of components relative to each other and/or to the printed circuit board itself. Additionally, other embodiments can include different types and/or numbers of printed circuit board components.

Please replace paragraph [0019] with the following replacement paragraph:

[0019] Ball grid array (BGA) 102 is an example of a connector that can be used to couple an integrated circuit (not shown) to printed circuit board 101. Ball grid array 102 includes connectors, such as connectors 104A-104D, that are configured to be coupled to an I/O (Input/Output) lead of an integrated circuit. Connectors 104A-104D each include a conducting pad configured to be coupled to a conductor on an integrated circuit by a solder ball formed on the underside of the integrated circuit. It is noted that a connector array can include a significantly larger number of connectors than are shown in FIG. 1[[A]]. In other embodiments, connector technologies other than BGA are used to couple integrated circuits to printed circuit board 101.

Please replace paragraph [0020] with the following replacement paragraph:

[0020] Each connector 104A-104D is coupled to a respective one of traces 106A-106D. The traces convey signals to and from the connectors. This allows an integrated circuit coupled to printed circuit board 100 by connectors 104A-104D to communicate with other devices on printed circuit board 100 and/or with devices external to printed circuit board 100. For example, FIG. 1[[A]] illustrates how at least some of signals operated on by such an integrated circuit can be communicated to connectors 109 included in backplane connector 108. In some embodiments, traces 106A and 106D convey one signal pair, and traces 106B and 106C convey another signal pair. The two signal pairs can be generated by an integrated circuit coupled to printed circuit board 100 by connectors 104A-104D and provided to backplane connection 108 by traces 106A-106D. Alternatively, the two signal pairs can be generated by a component on the backplane or on another printed circuit board coupled to the backplane and provided from backplane connection 108 to an integrated circuit coupled to connectors 104A-104D by traces 106A-106D. Similarly, one signal pair can be generated by such an integrated circuit, while the other signal pair is generated by a component on the backplane or another printed circuit board.

Please replace paragraph [0022] with the following replacement paragraph:

[0022] ~~FIG. 1B shows a cross section of the printed circuit board of FIG. 1A. This view of printed circuit board 100 shows connectors~~ In this example, connectors 104A and 104B[[, which]] are located on a top layer of printed circuit board 100. ~~Two routing layers, routing layer 110A and routing layer 110B, are located shown within substrate 101.~~ Traces such as traces 106A-106D can be formed on each routing layer. For example ~~Here,~~ traces 106A and 106B ~~(now shown in this view of printed circuit board 100)~~ can be formed on a routing layer that is underneath the top routing layer 110B. Since traces 106A and 106B are not formed on ~~routing the top routing layer 110A,~~ vias are needed to respectively connect connectors 104A and 104D to traces 106A and 106D. ~~Via 112A couples connector 104A to trace 106A on routing layer 110B. Via 112B couples connector 104B to trace 106B on routing layer 110B.~~

Please replace paragraph [0029] with the following replacement paragraph:

[0029] Vias 112A-112D, as shown in FIG. 2A, can be arranged underneath connectors used to couple an integrated circuit to a printed circuit board (e.g., as shown in FIG. 1). An integrated circuit designed to be coupled to a printed circuit board that has the via arrangement shown in

FIG. 2A will have input and/or output connectors arranged in a corresponding configuration so that the appropriate signal pairs will be provided to and/or received from vias 112A-112D. It is noted that unless traces on the top layer of the printed circuit board are provided to couple to the input and/or output connectors of the integrated circuit, vias will be needed to convey input and/or output signals to and/or from the integrated circuit's connectors. For example, in a BGA configuration, unless the printed circuit board includes traces configured to be coupled to solder ball connectors on the integrated circuit, the integrated circuit will include vias that are configured to be coupled to the solder ball connectors. In those situations, an arrangement of vias such as the one shown in FIG. 2A can allow a more dense arrangement of the integrated circuit's connectors and/or reduce the noise caused by crosstalk between signal pairs conveyed by the vias.